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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/712,874	11/12/2003	Yoshikazu Tanaka	ELG061-US	2316
7590 09/07/2005 Tyco Electronics Corporation M/S R20/1B 307 Constitution Drive Menlo Park, CA 94025-1164			EXAMINER SAINT SURIN, JACQUES M	
			ART UNIT 2856	PAPER NUMBER
DATE MAILED: 09/07/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/712,874	Applicant(s) TANAKA ET AL	
	Examiner Jacques M. Saint-Surin	Art Unit 2856	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 5/20/05, 2/22/05 and 11/01/03.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 10-20 is/are rejected.
- 7) ☒ Claim(s) 9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>05/20/05</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1-2, 7, 10, 13 and 16 are rejected under 35 U.S.C. 102(e) as being anticipated by Benard et al. (US Patent 6,741,237).

Regarding claim 1, Benard discloses an acoustic wave contact detecting apparatus (touch screen 100, see: Fig. 2) comprising:

a substrate (108) having a surface (110) along which acoustic waves propagate;

an acoustic wave generating means (transducer 102);

a reflection array (grating 114) for causing the generated acoustic waves to propagate along the surface of the substrate (108);

a detector (138 or 140) for detecting changes in the acoustic wave caused by an object (col. 7, lines 36-43) contacting the surface (110) of the substrate (108);

and a controller (118) for determining the geometric coordinates (coordinate 144, see: Fig. 2 and col. 7, lines 43-47, 58-60), of the object (finger or stylus or other object, see: col. 7, lines 36-37), wherein:

a spurious wave scattering means (SAWs 276 and 278 of Fig. 7) for diffusing spurious waves, which are generated accompanying the generation of the acoustic waves, is formed on the substrate (FIG. 7 illustrates SAWs 276 and 278 that scatter in a radially outward direction (indicated at 280) from the location 272 in response to the respective direct SAWs 264 and 266 contacting the object (e.g., finger, stylus, microsheet cover, etc.). The scattered SAWs 276 and 278 result from energy being absorbed by a microsheet cover or other object that contacts the substrate surface at 272, see: col. 13, lines 41-46).

Regarding claim 7, it is similar in scope with claim 1 and therefore is rejected for the reasons set forth for that claim. Furthermore, Benard discloses a mode converting element (transducers 102, 104, 106 typically include piezoelectric elements configured to convert an electrical signal into mechanical stress and/or mechanical stress into an electrical signal, see: col. 6, lines 9-12). Regarding claim 8, Benard discloses transducers 256 and 258 are controlled to transmit acoustic waves concurrently as pulses that propagate as respective SAWs 264 and 266 across the substrate surface 254 protrusion

Regarding claims 2, 10, 13 and 16, Benard discloses sheet 150 typically is formed of a material that has an acoustic impedance that more closely matches that of the surface 110. This facilitates a stronger interaction with the SAW (e.g., sound energy passing from the substrate into the sheet 150). The energy lost from the substrate 108 into the sheet 150 results in larger acoustic scattering and/or reflection, see: col. 9, lines 36-40 and 46-50).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 3-6, 8, 11-12, 14, 15 and 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Benard et al. (US Patent 6,741,237) in view of Kadota et al. (US Patent 5,260,913).

Regarding claims 3-6, 11-12, 14-15 and 17-20, Benato does not disclose or suggest printing and etching for forming the acoustic wave generating means and the spurious wave scattering means, the mode converting elements and the diffusion portion. Kadota discloses a plurality of interdigital transducers (IDTs) for constructing the plurality of SAW devices are then formed on the upper surface of the piezoelectric mother substrate. The IDTs are formed by evaporating an electrode material over the entire upper surface of the piezoelectric mother substrate and etching the same. The IDTs may be formed by another thin film forming technique such as printing or sputtering, see: col. 9, lines 58-65. It would have been obvious to one having ordinary skill in the art at the time of the invention to utilize in Benard the techniques of Kadota because the bulk wave is scattered by forming the end surface portions below the steps as rough surfaces thereby to make it possible to reduce a spurious mode due to the reflection of the bulk wave from the end surfaces more effectively.

Allowable Subject Matter


6. Claim 9 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.


Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jacques M. Saint-Surin whose telephone number is (571) 272-2206. The examiner can normally be reached on Mondays through Fridays 10:30 A.M. -7:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on (571) 272 2208. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Jacques M. Saint-Surin
August 31, 2005


HEZRON WILLIAMS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800